

Date: Sun, 20 Feb 94 04:30:23 PST
From: Ham-Ant Mailing List and Newsgroup <ham-ant@ucsd.edu>
Errors-To: Ham-Ant-Errors@UCSD.Edu
Reply-To: Ham-Ant@UCSD.Edu
Precedence: Bulk
Subject: Ham-Ant Digest V94 #40
To: Ham-Ant

Ham-Ant Digest Sun, 20 Feb 94 Volume 94 : Issue 40

Today's Topics:

 Antenna gain: dB,dBi,dBic ?? (2 msgs)
 ARnet - Ham Radio Network
 Homemade balun, unknown toroid material. Help!
 Longwire design? (2 msgs)
 NEED: info on Hy-gain 11m Beams
 Radiation efficiency questions ...

Send Replies or notes for publication to: <Ham-Ant@UCSD.Edu>
Send subscription requests to: <Ham-Ant-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Ant Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-ant".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Sat, 19 Feb 1994 19:18:02 GMT
From: agate!howland.reston.ans.net!news.intercon.com!udel!news.sprintlink.net!
direct!kg7bk@ames.arpa
Subject: Antenna gain: dB,dBi,dBic ??
To: ham-ant@ucsd.edu

jordan@convax.iar.nrc.ca wrote:
: The specs usually use dB, dBi or dBic. Thanks, Jim

Hi Jim, dB is a relative power or voltage level
comparison of one condition to another condition. Since it is relative,
one needs a reference point. I am running 3dB more power than you if I
am running 2 watts and you are running 1 watt. I am also running 3dB more
power than you if I am running 200 watts and you are running 100 watts.
Don't bother buying an antenna that advertises 10 dB gain... it could be
gain over a ground rod.

dBi is the comparison of something (antenna) to a theoretical point source (isotropic) radiator (antenna). The gain of a half-wave dipole in free space is 2.14 dBi and when an antenna gain is specified in dBd it is usually the gain over a dipole in free space. But don't expect your antenna to be that much better than your trusty dipole. A half-wave dipole at a reasonable height over a reasonable ground has a gain of around 7 dBi or around 5 dBd. What??? Yes, a half-wave dipole at a reasonable height over a reasonable ground has around a 5 dB gain over a dipole in free space so watch out for antenna gain claims. Most of us don't have a lot of free space around us.

dBc is a measurement of something (like spurs or harmonics) compared to the carrier of a signal. I don't know what dBic is.

73, Cecil, kg7bk@indirect.com

Date: Fri, 18 Feb 1994 18:33:29 -0500
From: titan.ksc.nasa.gov!k4dii.ksc.nasa.gov!user@ames.arpa
Subject: Antenna gain: dB,dBi,dBic ??
To: ham-ant@ucsd.edu

In article <0097A3CD.E4D50D20.1558@convax.iar.nrc.ca>, jordan@convax.iar.nrc.ca wrote:
> Can anyone help me. I am trying to interpret various antenna gain specs for
> a variety of circularly polarized antennas. The specs usually use dB, dBi
> or dBic.
> For instance, a 4 ft. parabolic dish is spec'd at 24 dB. Should this be dBi
> ? I have some information on a patch antenna which has a gain of 16-17
> dBic. How do I compare the two gains ??

Jim-

I have asked questions like yours, and found an industry that is loaded with confusion. I have seen catalog pages that had both dBi and dBd (dipole) figures, with no clue as to which they meant. In some cases, I suspect the method that gives the highest number is used, even though the industry has standardized on the lower-valued method.

In the case of the antennas you referenced, your assumptions sound reasonable. However, the parabolic dish probably needs more information about the feed, before over-all gain can be established. In that respect, gain in pure dB, is probably correct.

I have never encountered the dBic term before. If circular can be generated by radiating half of your power in one plane, half power at 90 degrees, and delaying the phase of one, then dBic may be related to dBi, by

3 dB. A manufacturer might use dBic, if the resulting number was higher than the published gain of his competitor's identical antenna.

Does it sound like I have a bad attitude?

73, Fred, K4DII

Date: Sat, 19 Feb 94 17:24:00 -0500
From: agate!iat.holonet.net!wwwswinc!john.woodstock@ames.arpa
Subject: ARnet - Ham Radio Network
To: ham-ant@ucsd.edu

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Amateur Radio Net

Amateur Radio Net is a net dedicated to Amateur Radio enthusiasts. If you are an Amateur Radio enthusiast, or any of your callers are, this is an echomail network for you. ARnet is replacing an older ham radio network that recently folded - RF-Net(tm).

If you would like to get more information about this net, please look for the information packet ARNET024.ZIP on the following BBS's:

Channel1
SaltAir
Mustang HQ BBS
Execnet
Intelec
Sound Of Music

and the Network Host BBS - The Silicon Garden.

It can be FREQ'd from 1:2619/211 using a magic name of ARNET

ARnet is available via QWK & FIDO. As this is the initial announcement of the net many HUB positions are still open.

If you have any questions, please contact me.

John Woodstock, N2HAA
P.O. Box 436
Coram, NY 11784
BBS: 516-736-6662
FIDO: 1:2619/211

Internet: SysOp@woodybbs.com

≥ TXTBCST 1.3b: ARnet - Ham Radio Info Source

Date: Sat, 19 Feb 1994 17:26:46 GMT
From: agate!howland.reston.ans.net!newsserver.jvnc.net!raffles.technet.sg!ntuix!
ntuvax.ntu.ac.sg!asirene@ames.arpa
Subject: Homemade balun, unknown toroid material. Help!
To: ham-ant@ucsd.edu

Hi,

I just made a 1:1 current balun for use at the feed point of my 20 meter dipole fed from a RG-58. The problem is that the toroid I used was unmarked so I do not know the actual effect of the "balun". Is there a way to test the balun? Or should I eliminate it altogether. What kind of effect will the balun (with or without) have on my transmission and reception?

Tks.

73 de 9V Daniel

Date: Sat, 19 Feb 1994 19:32:52 GMT
From: elroy.jpl.nasa.gov!usc!howland.reston.ans.net!news.intercon.com!udel!
news.sprintlink.net!direct!kg7bk@ames.arpa
Subject: Longwire design?
To: ham-ant@ucsd.edu

Kenneth E. Harker (Kenneth.E.Harker@Dartmouth.Edu) wrote:
: I'm looking to build a rather simple longwire antenna. I intend to
: use it initially for SWL on 31m, and ... use it for QRP CW on 40m.
: Kenneth E. Harker N1PVB

Hi Kenneth, In my opinion, a 40m quarter-wave end-fed antenna would fulfill your needs. Length is usually not a big deal on a receiving antenna. Make the antenna a little too long and trim for minimum SWR. Use a short length of coax from your rig to a choke and tie the other side of the choke to the center conductor to the antenna. Either build or buy a choke if you don't want "rf-in-the-shack". An antenna tuner

may not be required but is a good idea for 50-ohm fixed output rigs.

73, Cecil, kg7bk@indirect.com

Date: 18 Feb 1994 19:39:06 GMT
From: news.bu.edu!dartvax.dartmouth.edu!usenet@purdue.edu
Subject: Longwire design?
To: ham-ant@ucsd.edu

I'm looking to build a rather simple longwire antenna. I intend to use it initially for SWL on 31m, and eventually use it for QRP CW on 40m. It needs to be a longwire (as opposed to a dipole), because I live in a dorm, and I can't just go out and bury coax in the ground. I intend to have the feed-point end of the antenna near my third floor window. I've seen many, many designs for dipoles, but can't currently locate a good one for a longwire.

And while I'm considering this, since I want it to cover from 7MHz to 9.9MHz, will I need to get a tuner? Should I make it for 40m and just deal with it however it turn out for the SWL? Or should I just make two antennas since this is such a wide range? Anything else I should consider?

Thanks in advance for any advice...

=====
Kenneth E. Harker N1PVB Dartmouth College Amateur Packet Radio
kenneth.e.harker@dartmouth.edu Hinman Box 1262 n1pvb@w1et.nh.usa.na
(603) 643-6549 Hanover, NH 03755 or n1pvb-5 on 144.99
=====

(PGP Public Key now available on request)

Date: Thu, 17 Feb 1994 21:25:05 GMT
From: europa.eng.gtefsd.com!howland.reston.ans.net!news2.cac.psu.edu!
news.pop.psu.edu!psuvax1!news.cc.swarthmore.edu!netnews.upenn.edu!
netnews.cc.lehigh.edu!ns1.cc.lehigh.edu@library.ucla.edu
Subject: NEED: info on Hy-gain 11m Beams
To: ham-ant@ucsd.edu

I would like to have some INFO on Hy-gain 11m BEAms....
such as: size, cost for 1, gain, and the anything else that
can be found...

THAnks

DAvid

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:)*****(:
** The Flying HAm **
** David Roseman ** c002@lehigh.edu **
** **
** Cole's Law: ** Les Boules Qui Roulet **
** Thinly sliced Cabbage ** Toutes Les Poules!! **

Date: Sat, 19 Feb 1994 18:47:10 GMT
From: agate!howland.reston.ans.net!news.intercon.com!udel!news.sprintlink.net!
direct!kg7bk@ames.arpa
Subject: Radiation efficiency questions ...
To: ham-ant@ucsd.edu

Alan Bloom (alanb@sr.hp.com) wrote:

: Since the current is only maximum at the feedpoint,
: the effective loss resistance is less than the resistance of the wire
: end-to-end.) AL N1AL

Hi Al, less someone think you are talking about all antennas, let's be
sure everyone understands that you are talking about "short" antennas.
If one is center-feeding a full-wave dipole, the current is certainly
not maximum at the feedpoint.

73, Cecil, kg7bk@indirect.com

End of Ham-Ant Digest V94 #40
